FIG 1

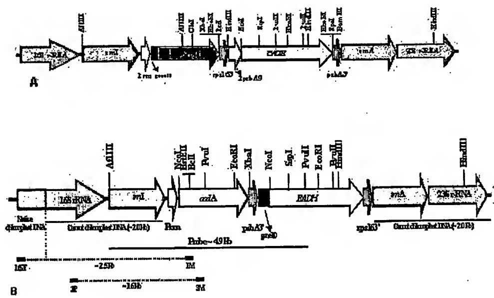

AflIII
16S rRNA
trnI
aadA
BADH
trnA
23S rRNA
HindIII
EcoRI
XbaI
NcoI
SapI
PvuII
Prrn
A
B

FIG 2

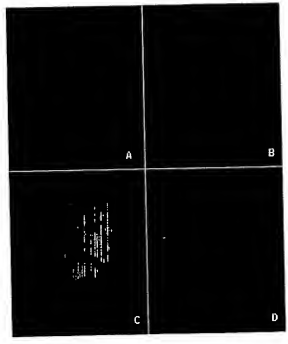


FIG 3

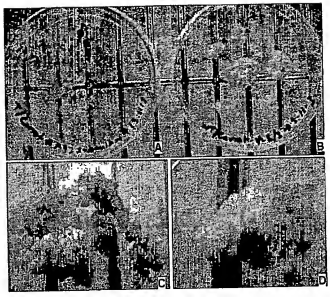
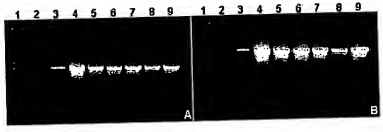


FIG 4



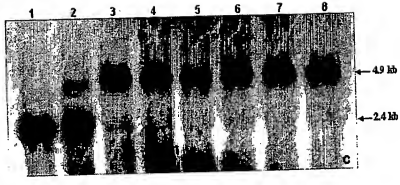
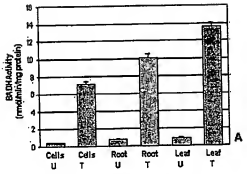


FIG 5


GH activity (mol/min/mg protein)
16
14
12
10
8
6
4
2
0
Cells U
Cells T
Root U
Root T
Leaf U
Leaf T
A

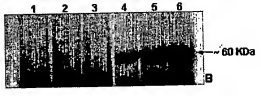

1
2
3
4
5
6
60 KDa
B

FIG 6

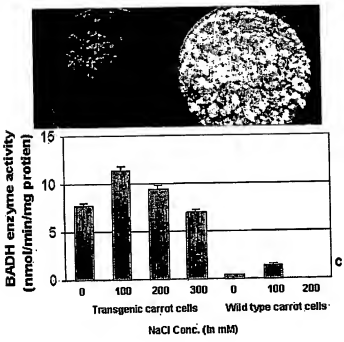

BADH enzyme activity
(nmol/min/mg protein)
15
10
5
0
0
100
200
300
0
100
200
Transgenic carrot cells
Wild type carrot cells
NaCl Conc. (in mM)
C

FIG 7

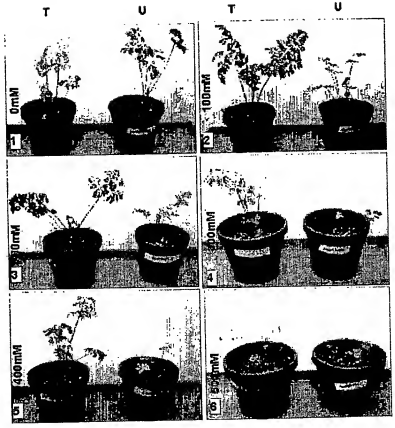
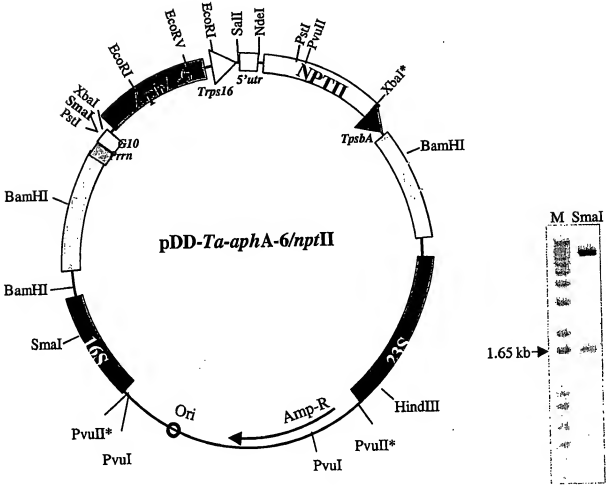


FIG8

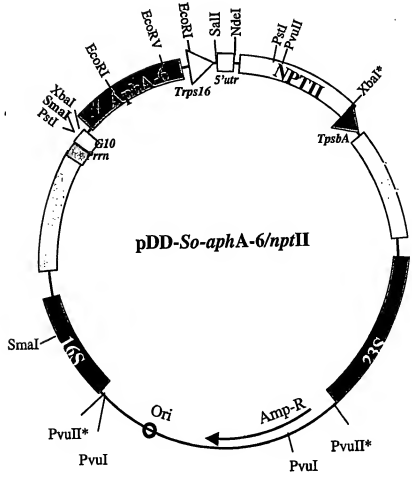
PLASMID NAME: pDD-*Ta-aph*A-6/*npt*II

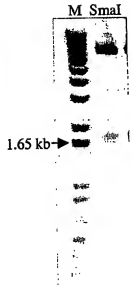


* Means destroyed

FIG 9

PLASMID NAME: pDD-*So-aph*A-6/*npt*II

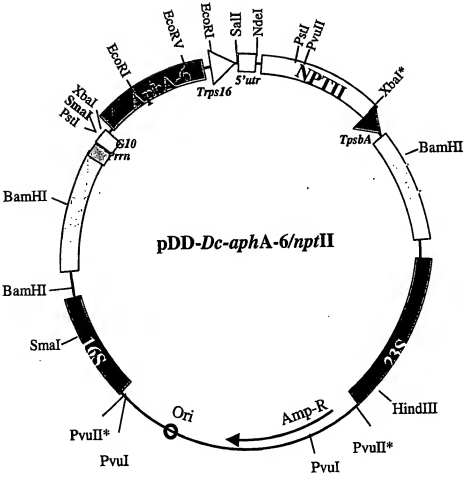




* Means destroyed

FIG 10

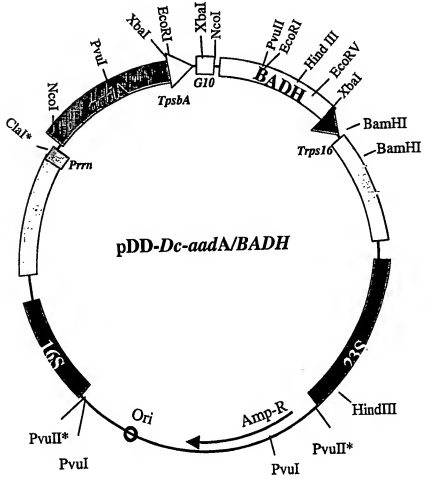
PLASMID NAME: pDD-*Dc-aph*A-6/*npt*II



* Means destroyed

FIG 11

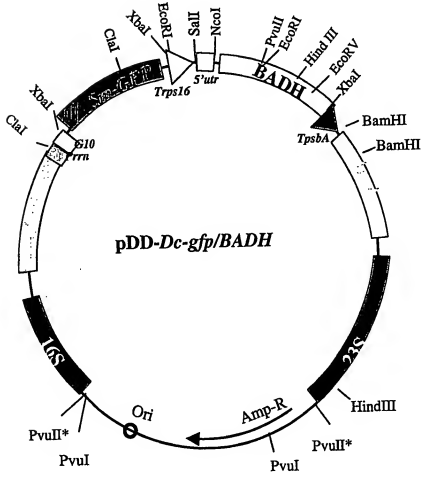
PLASMID NAME: pDD-*Dc-aad*A/*BADH*



* Means destroyed

FIG 12

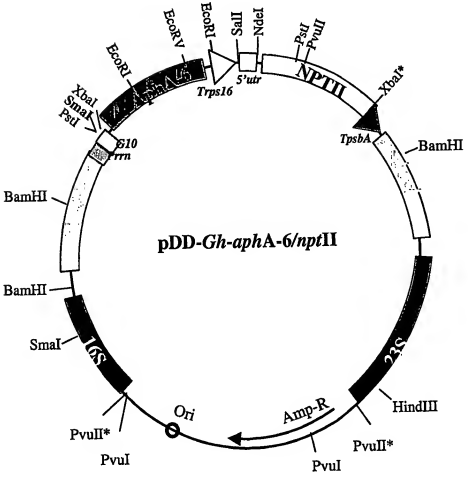
PLASMID NAME: pDD-*Dc-gfp/BADH*



* Means destroyed

FIG 13

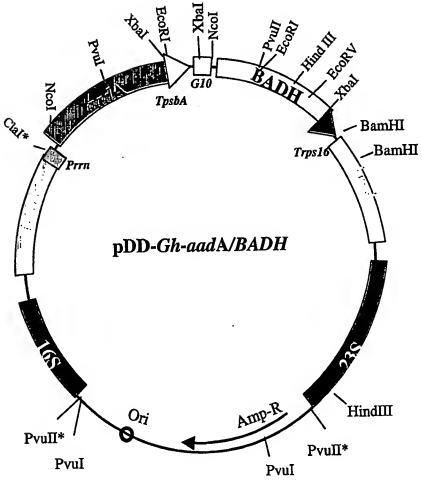
PLASMID NAME: pDD-*Gh-aph*A-6/*npt*II



* Means destroyed

FIG 14

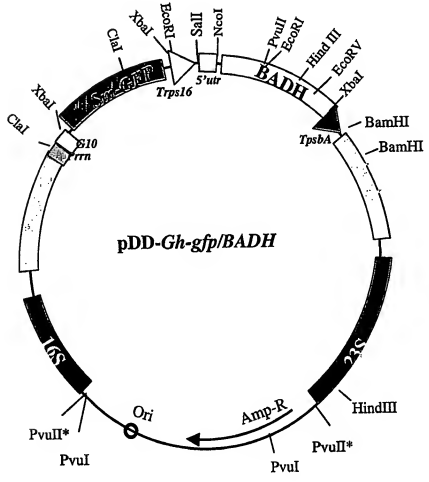
PLASMID NAME: pDD-*Gh-aadA/BADH*



* Means destroyed

FIG 15

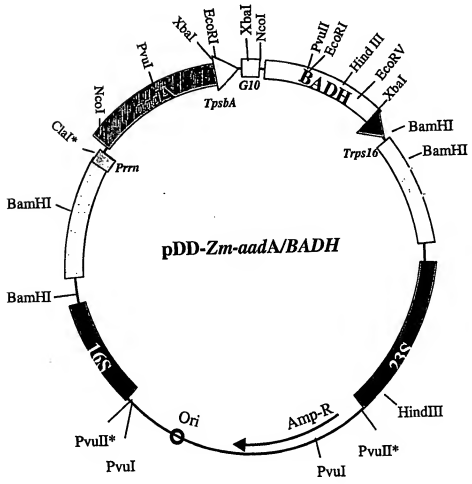
PLASMID NAME: pDD-*Gh-gfp/BADH*



* Means destroyed

FIG 16

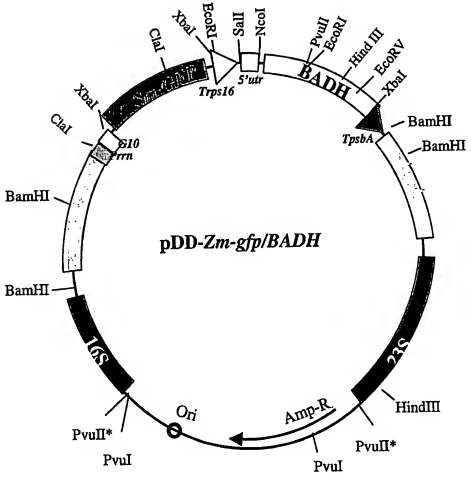
PLASMID NAME: pDD-*Zm-aad*A/*BADH*



* Means destroyed

FIG 17

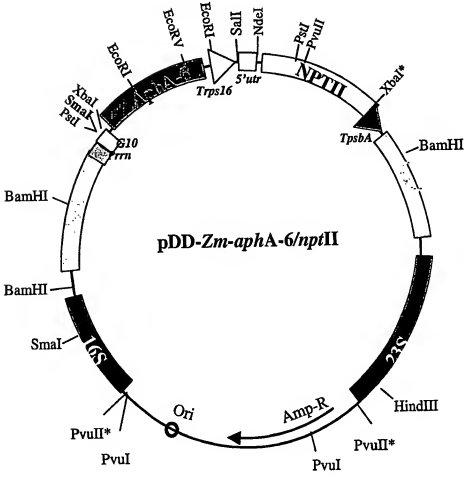
PLASMID NAME: pDD-*Zm-gfp/BADH*



* Means destroyed

FIG 18

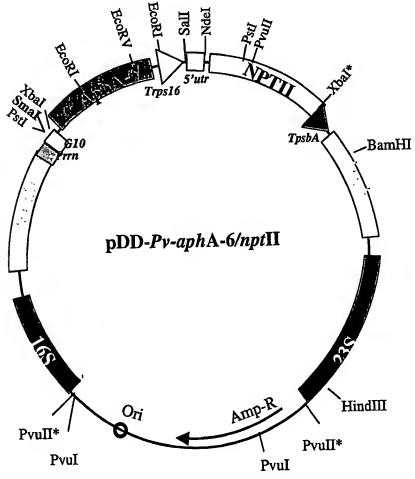
PLASMID NAME: pDD-Zm-*aph*A-6/*npt*II



* Means destroyed

FIG 19

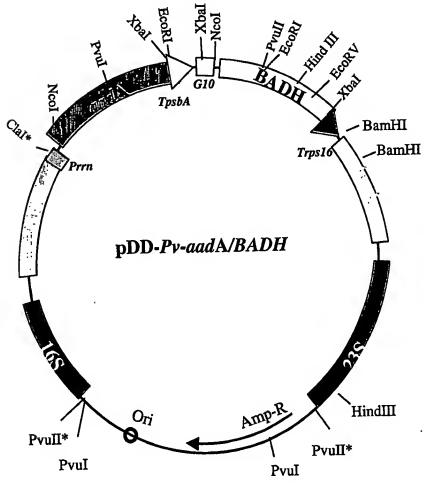
PLASMID NAME: pDD-*Pv-aph*A-6/*npt*II *(switchgrass)*



* Means destroyed

FIG 20

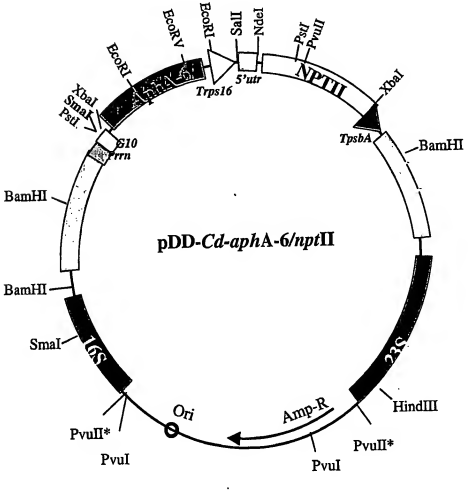
PLASMID NAME: pDD-*Pv-aad*A/*BADH (switchgrass)*



* Means destroyed

FIG 21

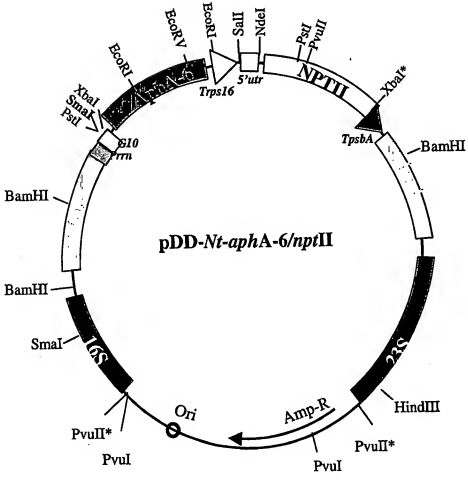
PLASMID NAME: pDD-*Cd-aph*A-6/*npt*II *(bermudagrass)*



* Means destroyed

FIG 22

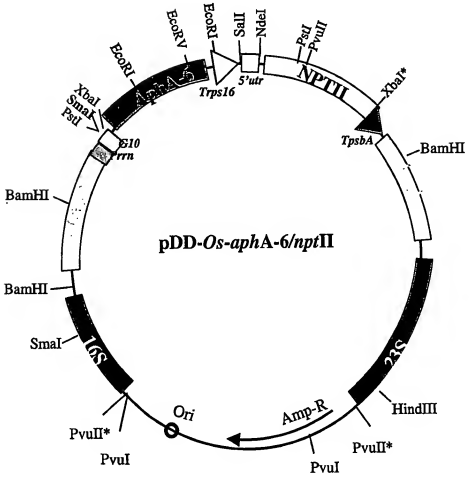
PLASMID NAME: pDD-*Nt-aph*A-6/*npt*II



* Means destroyed

FIG 23

PLASMID NAME: pDD-*Os-aph*A-6/*npt*II



* Means destroyed

FIG 24

PLASMID NAME: pDA-66

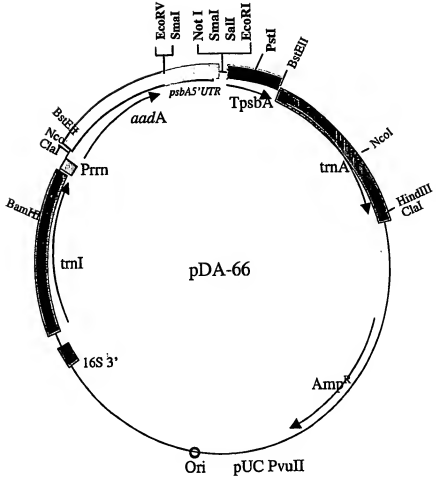
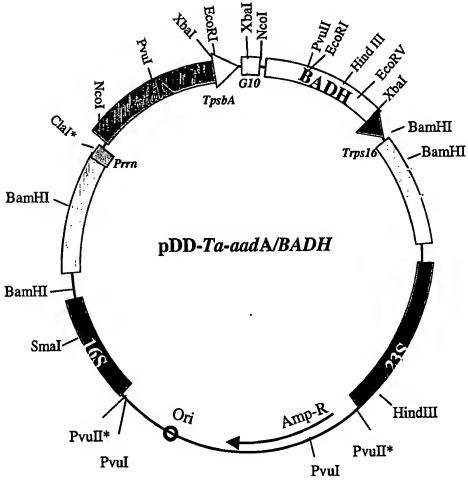


FIG 25

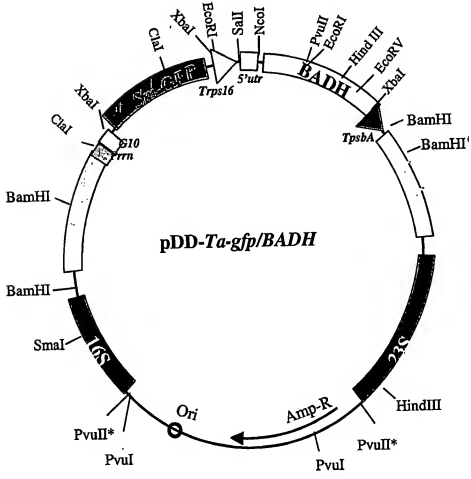
PLASMID NAME: pDD-*Ta-aadA/BADH*



* Means destroyed

FIG 26

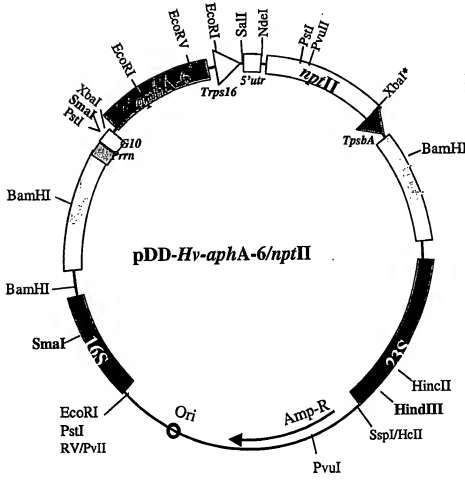
PLASMID NAME: pDD-*Ta-gfp/BADH*

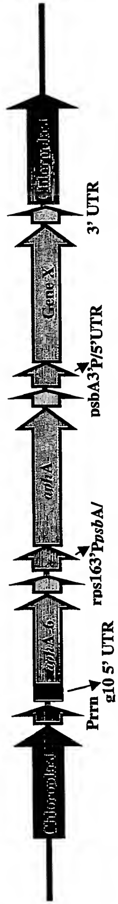


* Means destroyed

FIG 27

PLASMID NAME: pDD-*Hv-aph*A-6/*npt*II

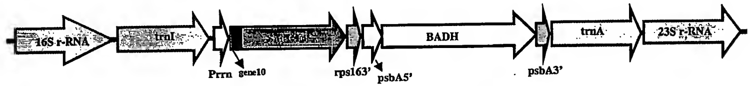




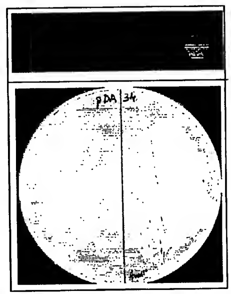
Double Barrel Plastid Vector harboring *aphA*-6 and *aphA*-2 genes conferring resistance to aminoglycosides

FIG 28

Maize Chloroplast Transformation Vector



pDD34-ZM-gfp-BADH

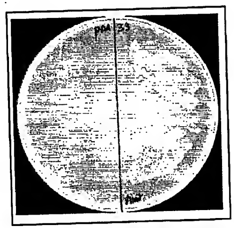


GFP expression in E. coli

FIG 29

Maize Chloroplast Transformation Vector

pDD33-ZM-aadA-BADH



E. coli cells grown on Spectinomycin

FIG 30

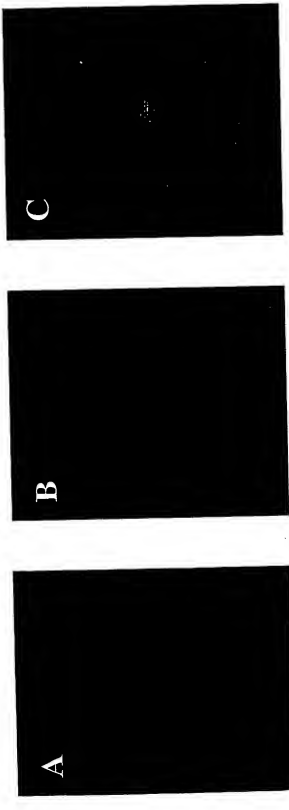


FIG 31

FIG 32A

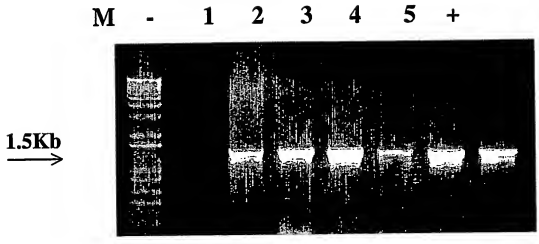


FIG 32B

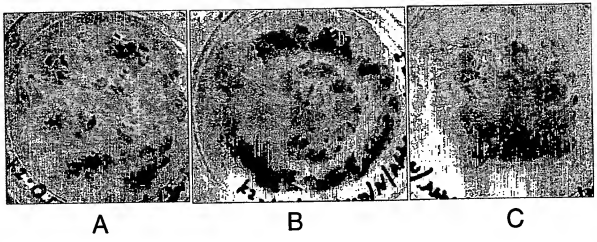


FIG 33(A-B)

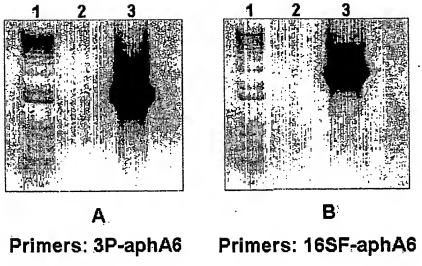


FIG 34 (A-B)

FIG 35

1. Sequence of aadA/BADH cassette (SEQ ID No. 1):

AGCTTGCGGGCCCCCCCTCGAGGTCGACGGTATCGATAAGCTTGATTATCCCTAAGCCCAATGTGAGTTTTTCTAGTTGG
ATTTGCTCCCCCGCCTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGGCAGGGATGGCTATATT
TCTGGGAGCGAACTCCGGGCGAATATGAAGCGCATGGATACAAGTTATGCCTTGGAATGAAAGACAATTCCGAATCCGCT
TTGTCTACCCGATACAAGTGAGTTGTAGGGAGGCAACCATGGCAGAAGCGGTGATCGCCGAAGTATCGACTCAACTATCA
GAGGTAGTTGGCGTCATCGAGCGCCATCTCGAACCGACGTTGCTGGCCGTACATTTGTACGGCTCCGCAGTGGATGGCGG
CCTGAAGCCACACAGTGATATTGATTTGCTGGTTACGGTGACGGTGACCGTAAGGCTTGATGAAACAACGCGGCGAGCTT
TGATCAACGACCTTTTGGAAACTTCGGCTTCCCCTGGAGAGAGCGAGATTCTCCGCGCTGTAGAAGTCACCATTGTTGTG
CACGACGACATCATTCCGTGGCGTTATCCAGCTAAGCGCGAACTGCAATTTGGAGAATGGCAGCGCAATGACATTCTTGC
AGGTATCTTCGAGCCAGCCACGATCGACATTGATCTGGCTATCTTGCTGGCAAAAGCAAGAGAACATAGCGTTGCCTTGG
TAGGTCCAGCGGCGGAGGAACTCTTTGATCCGGTTCCTGAACAGGATCTATTTGAGGCGCTAAATGAAACCTTAACGCTA
TGGAACTCGCCGCCCGACTGGGCTGGCGATGAGCGAAATGTAGTGCTTACGTTGTCCCGCATTTGGTACAGCGCAGTAAC
CGGCAGAATCGCGCCGAAGGATGTCGCTGCCGACTGGGCAATGGAGCGCCTGCCGGCCCAGTATCAGCCCGTCATACTTG
AAGCTAGACAGGCTTATCTTGGACAAGAAGAAGATCGCTTGGCCTCGCGCGCAGATCAGTTGGAAGAATTTGTTCACTAC
GTGAAAGGCGAGATCACCAAGGTAGTCGGCAAATAAAAAGCCGAATCTAGAGGGATCCTGGCTAGTTCATAGGAGGTTT
TGAAAAGAAAGGAGCAATAATCATTTCTTGTTCTATCAAGAGGTGTCTATTGCTCCTTTTTTCTTTTATTTAT
TTACTAGTATTTTACTTACATTTTTTGTTTACATTATAGAAAAAGAAGGAGAGGTTATTTTCTTGCATTTATTCA
TGATTGAGTATTCTATTTTGATTTTGTATTTGTTTGGGCTGCGCGGGGAGACCACAACGGTTTCCCTCTAGAAATAATTT
TGTTTAACTTTAAGAAGGAGATATACCATGGCGTTCCCAATTCCTGCTCGTCAGCTATTCATCGACGGAGAGTGGAGAGA
ACCCATTAAAAAAAATCGCATACCCGTCATCAATCCGTCCACTGAAGAAATCATCGGTGATATTCCGGCAGCCACGGCTG
AAGATGTGGAGGTTGCGGTGGTGGCAGCTCGAAGAGCCTTTAGGAGGAACAATTGGTCAGCAACATCTGGGGCTCATCGT
GCCACATACTTGCGTGCTATTGCTGCTAAGATAACAGAAAAAAAAGATCATTTCGTTAAACTGGAAACCATTGATTCTGG
GAAACCTTTTGATGAAGCAGTGCTGGACATTGATGACGTTGCTTCATGTTTTGAATATTTGCGGACAAGCAGAAGCTC
TTGATGGTAAACAAAAGGCTCCAGTCACCCTGCCTATGGAAAGGTTCAAAAGTCATGTTCTCAGGCAGCCCCTTGGTGTT
GTTGGATTAATATCCCATGGAATTACCCACTTCTAATGGCTACATGGAAAATTGCTCCAGCACTTGCTGCTGGGTGTAC
AGCTGTACTTAAGCCATCCGAGTTGGCATCTGTGACTTGTCTAGAATTCGGTGAAGTTTGCAACGAAGTGGGACTTCCTC
CAGGCGTGTTGAATATCTTGACAGGATTAGGTCCAGATGCTGGTGCACCATTAGTATCACACCCCGAGTGTGACAAGATT
GCCTTTACTGGGAGTAGTGCCACTGGAAGCAAGGTTATGGCTTCTGCTGCCCAATTGGTTAAGCCTGTTACATTAGAACT
TGGGGGTAAAAGTCCTATTGTAGTGTTTGAAGATGTTGATATTGATAAAGTTTGTGGAATGGACTATTTTTGGCTGTTGG
GGACAAATGGTCAAATATGTAGTGCAACGTCTAGACTGCTTGTGCATGAAAGTATTGCAGCTGAGTTTGTTGATAAGCTT
GTAAAATGGACGAAAAACATTAAAATTTCTGACCCATAAGAAGGATGCCGGCTTGGCCCTGTTATTAGTAAAGGACA
GTACGACAATTATGAAGTTCATATCAACAGCAAAGAGTGAGGGGGCAACTATTTTGTATGGAGGTTCCCGTCCTGAGC
ATTTGAAGAAAGGTTATTACATTGAACCCACCATTGTAACTGATATCTCCACATCCATGCAAATATGGAAAGAGGAAGTT
TTTGGCCCTGTCTTGTGTGTTAAAACATTTAGTTCCGAAGATGAAGCCATTGCATTGGCAAATGATACAGAGTACAGGTT
AGCTGCTGCTGTGTTTTCTAATGATCTTGAAAGATGTGAGAGGATAACGAAGGCTCTAGAAGTTGGAGCTGTTTGGGTTA
ATTGCTCACAACCATGCTTTGTTCAAGCTCCTTGGGGAGGCATCAAGCGTAGTGGTTTTGGACGTGAACTTGGAGAATGG
GGTATCCAGAATTACTTGAATATCAAGCAGGTGACTCAAGATATTTCTGATGAACCATGGGGATGGTACAAGTCTCCTTG
AAAGCCGAATTCCAGCACACTGGCGGCCGTTACTAGATCATCACACTGGCGGCCGAACACGGAATTCAATGGAAGCAA
TGATAAAAAAATACAAATAGAAAAGGAAAGGGAGGAAATACAAAAAAATAGAAGAGAAAAGTCATACAAAGTTATATAC
A
AATGACTACCCCCCTTTTTGTATTTCCTTAATTTATTTCCTTAATTGAATTTCGATGGATACAAGTTATGCCTTGGAATG
AATTTCGGTTGATTAGGACTAGTAAGCCGAATTCTGCAGATATCCATCACACTGGCGGCCGCTCGAGCATGCATCTAGAG
GGCC

FIG 36

2. Sequence of gfp/BADH expression cassette (SEQ ID No. 2):

CGGGCCCCCCCTCGAGGTCGACGGTATCGATGACGCCTGATTATCCCTAAGCCCAATGTGAGTTTTTCTAGTTGGATTTGC
TCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGCAGGGATGGCTATATTTCTGGG
AGCGAACTCCGGGCGAATATGAAGCGCATGGATACAAGTTATGCCTTGGAATGAAAGACAATTCCGACTTTCTTCT
ACCGGGAGACCACAACGGTTTCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACCCATGTCCAATGAGTAA
AGGAGAAGAACTTTTCACTGGAGTTGTCCCAATTCTTGTTGAATTAGATGGTGATGTTAATGGGCACAAATTTTCTGTCA
GTGGAGAGGGTGAAGGTGATGCAACATACGGAAAACTTACCCTTAAATTTATTTGCACTACTGGAAAACTACCTGTTCCA
TGGCCAACACTTGTCACTACTTTCTCTTATGGTGTTCAATGCTTTTCAAGATACCCAGATCATATGAAGCGGCACGACTT
CTTCAAGAGCGCCATGCCTGAGGGATACGTGCAGGAGAGGACCATCTCTTTCAAGGACGACGGGAACTACAAGACACGTG
CTGAAGTCAAGTTTGAGGGAGACACCCTCGTCAACAGGATCGAGCTTAAGGGAATCGATTTCAAGGAGGACGGAAACATC
CTCGGCCACAAGTTGGAATACAACTACAACTCCCACAACGTATACATCACGGCAGACAAACAAAAGAATGGAATCAAAGC
TAACTTCAAAATCAGACACAACATTGAAGATGGAAGCGTTCAACTAGCAGACCATTATCAACAAATACTCCAATTGGCG
ATGGCCCTGTCCTTTTACCAGACAACCATTACCTGTCCACACAATCTGCCCTTTCGAAAGATCCCAACGAAAAGAGAGAC
CACATGGTCCTTCTTGAGTTTGTAACAGCTGCTGGGATTACACATGGCATGGATGAACTATACAAATAATCTAGAAAGCC
GAATTCTGCAGATCGAACACGGAATTCAATGGAAGCAATGATAAAAAAATACAAATAGAAAAGGAAAGGGAGGAAATACA
AAAAAATAGAAGAGAAAAGTCATACAAAGTTATATACAAATGACTACCCCCCTTTTTGTATTTCCTTAATTTATTTCCTT
AATTGAATTTCGATGGATACAAGTTATGCCTTGGAATGAATTTCGGTTGATTAGGACTAGCGATAAGCTTGATATCGAAT
TCGGCTTGATATCGTCGACGTAGAGAAGTCCGTATTTTTCCAATCAACTTCATTAAAAATTTGAATAGATCTACATACAC
CTTGGTTGACACGAGTATATAAGTCATGTTACTGTTGAATAAAAGCCTTCCATTTCTATTTTGAATTGTAGAATAAAC
TAGTGTGCTTGGGAGTCCTGATGATTAAATAACCAAGATTTTCCATGGCGTTCCCAATTCCTGCTCGTCAGCTATTCA
TCGACGGAGAGTGGAGAGAACCCATTAAAAAAAATCGCATACCCGTCATCAATCCGTCCACTGAAGAAATCATCGGTGAT
ATTCCGGCACGCCACGGCTGAAGATGTGGAGGTTGCGGTGGTGGCAGCTCGAAGAGCCTTTAGGAGGAACAATTGGTCAGC
AACATCTGGGGCTCATCGTGCCACATACTTGCGTGCTATTGCTGCTAAGATAACAGAAAAAAAAGATCATTTCGTTAAAC
TGGAAACCATTGATTCTGGGAAACCTTTTGATGAAGCAGTGCTGGACATTGATGACGTTGCTTCATGTTTTGAATATTTT
GCCGGACAAGCAGAAGTCTTGATGGTAAACAAAAGGCTCCAGTCACCCTGCCTATGGAAAGGTTCAAAAGTCATGTTCT
CAGGCAGCCCTTGGTGTTGTTACGAATTCCCCATGGAATTAACCCACTTCAATGGCTACATGGAAATTGCTTCCAG
CACTTGCTGCTGGGTGTACAGCTGTACTTAAGCCATCCGAGTTGGCATCTGTGACTTGTCTAGAATTCGGTGAAGTTTGC'
AACGAAGTGGGACTTCCTCCAGGCGTGTTGAATATCTTGACAGGATTAGGTCCAGATGCTGGTGCACCATTAGTATCACA
CCCCGATGTTGACAAGATTGCCTTTACTGGGAGTAGTGCCACTGGAAGCAAGGTTATGGCTTCTGCTGCCCAATTGGTTA
AGCCTGTTACATTAGAACTTGGGGGTAAAAGTCCTATTGTAGTGTTTGAAGATGTTGATATTGATAAAGTTGTGGAATGG
ACTATTTTTGGCTGTTTCTGGACAAATGGTCAAATATGTAGTGCAACGTCTAGACTGCTTGTGCATGAAAGTATTGCAGC
TGAGTTTGTTGATAAGCTTGTAAAATGGACGAAAAACATTAAAATTTCTGACCCATTTGAAGAAGGATGCCGGCTTGGCC
CTGTTATTAGTAAAGGACAGTACGACAAAATTATGAAGTTCATATCAACAGCAAAGAGTGAGGGGGCAATAATTGCTTAT
GGAGGTTCCGTCTGAGCATTTGAAGAAAGGTTATACATTGAACCCACCATTGTAACTGATATCTCCACATCCATGCA
AATATGGAAAGAGGAAGTTTTTGGCCCTGTCTTGTGTGTTAAAACATTTAGTTCCGAAGATGAAGCCATTGCATTGGCAA
ATGATACAGAGTACGGTTTAGCTGCTGCTGTTTTCTAATGATCTTGAAAGATGTGAGAGGATAACGAAGGCTCTAGAA
GTTGGAGCTGTTTGGGTTAATTGCTCACAACCATGCTTTGTTCAAGCTCCTTGGGGAGGCATCAAGCGTAGTGGTTTTGG
ACGTGAACTTGGAGAATGGGGTATCCAGAATTACTTGAATATCAAGCAGGTGACTCAAGATATTTCTGATGAACCATGGG
GATGGTACAAGTCTCCTTGAAAGCGAATTCCAGCACACTGGCGGCCGTTACTAGTGGATCCACTAGTAACGGCCGCCAG
TGTGCTGGAATTCGGCTTCTAGAGCGATCCTGCCTAGTCTATAGGAGGTTTTGAAAAGAAGGAGCAATAATCATTTT
CTTGTTCTATCAAGAGGGTGCTATTGCTCCTTCTTTTTTTCTTTTTATTTATTACTAGTATTTTACTTACATAGACTT
TTTTGTTTACATTATAGAAAAAGAAGGAGAGGTTATTTTCTTGCATTTATTCATGATTGAGTATTCTATTTTGATTTTGT
ATTTGTTTGGGCTGCGAGCT

FIG 37

3. Sequence of the sphA-6/nptII expression cassette (SEQ ID No. 3):

CGGGCCCCCCCTCGAGGTCGACGGTATCGATGAGCCTGATTATCCCTAAGCCCAATGTGAGTTTTTCTAGTTGGATTTGC
TCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGCAGGGATGGCTATATTTCTGGG
AGCGAACTCCGGGCGAATATGAAGCGCATGGATACAAGTTATGCCTTGGAATGAAAGACAATTCCGAATCCGCTTTGTCT
ACCTGCAGCCCGGGAGACCACAACGGTTTCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACCATGGAAT
TACCAAATATTATTCAACAATTTATCGGAAACAGCGTTTAGAGCCAAATAAAATTGGTCAGTCGCCATCGGATGTTTAT
TCTTTAATGAAATAATGAAACTTTTTGTTAAGGATCTAGGACTTATATACAGAGACCACATACAGTGTCTCTCG
TGAAGCGAAAATGTTGAGTTGGCTCTCTGAGAAATTAAAGGTGCCTGAACTCATCATGACTTTTCAGGATGAGCAGTTTG
AATTCATGATCACTAAAGCGATCAATGCAAAACCAATTTCAGCGCTTTTTTAACAGACCAAGAATTGCTTGCTATCTAT
AAGGAGGCACTCAATCTGTTAAATTCAATTGCTATTATTGATTGTCCATTTATTTCAAACATTGATCATCGGTTAAAAGA
GTCAAAATTTTTATTGATAACCAACTCCTTGACGATATAGATCAAGATGATTTTGACACTGAATTATGGGGAGACCATA
AAACTTACCTAAGTCTATGGAATGAGTTAACCGAGACTCGTGTTGAAGAAAGATTGGTTTTTTCTCATGGCGATATCACG
GATAGTAATATTTTTATAGATAAATTCAATGAAATTTATTTTTTAGATCTTGGTCGTGCTGGGTTAGCAGATGAATTTGT
AGATATATCCTTTGTTGAACGTTGCCTAAGAGAGGATGCATCGGAGGAAACTGCGAAAATATTTTAAAGCATTTAAAAA
ATGATAGACCTGACAAAAGGAATTATTTTTTAAAACTTGATGAATTGAATTGATTCCAAGCATTATCTAAAATACTCCTA
GAGCGGCCCGAACACGGAATTCAATGGAAGCAATGATAAAAAAATACAAATAGAAAAGGAAAGGGAGGAAATACAAAAA
A
ATAGAAGAGAAAAGTCATACAAAGTTATATACAAATGACTACCCCCCTTTTTGTATTTCCTTAATTTATTTCCTTAATTG
AATTTCGATGGATACAAGTTATGCCTTGGAATGAATTTCGGTTGATTAGGACTAGATCGTCGACGTAGAGAAGTCCGTAT
TTTTCCAATCAACTTCATTAAAAATTTGAATAGATCTACATACACCTTGGTTGACACGAGTATATAAGTCATTGTTATACT
GTTGAATAAAAAGCCTTCCATTTTCTATTTTGATTTGTAGAAACTAGTGTGCTGGGAGTCGCTGATGATAAATAAAC
CAAGATTTTCATATGATTGAACAAGATGGATTGCACGCAGGTTCTCCGCCGCTTGGGTGGAGAGGCTATTCGGCTATGA
CTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCA
AGACCGACCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCT
TGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCT
GTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTA
CCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGAT
GATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCGCCAGGCTCAAGGCGCGCATGCCGACGGCGATGA
TCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTG
GCCGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGG
GCTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTT
CTTCTGATCTAGAGCGATCCTGGCCTAGTCTATAGGAGGTTTTGAAAAGAAAGGAGCAATAATCATTTTCTTGTTCTATC
AAGAGGGTGCTATTGCTCCTTTCTTTTTTCTTTTATTTATTTACTAGTATTTTACTTACATAGACTTTTTTGTTTACA
TTATAGAAAAAGAAGGAGAGGTATTTTCTTGCATTTATTCATGATTGAGTATTCTATTTGATTTTGTATTTGTTTGGG
CTGCGAGCT

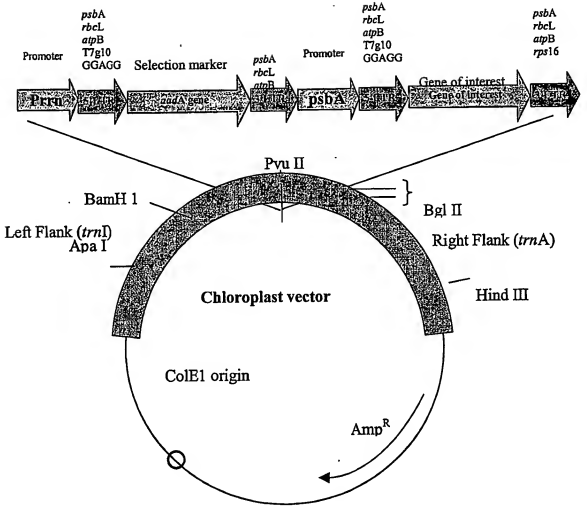

psbA
rbcL
atpB
T7g10
GGAGG
Promoter
Selection marker
psbA
rbcL
atpB
Promoter
psbA
rbcL
atpB
T7g10
GGAGG
psbA
rbcL
atpB
rps16
Gene of interest
Gene of interest
psbA
Pvu II
BamH 1
Bgl II
Left Flank (trnI)
Apa I
Right Flank (trnA)
Chloroplast vector
Hind III
ColE1 origin
Amp^R

FIG 38